98-D-123, Stockpile Management Restructuring Initiative Tritium Facility Modernization and Consolidation, Savannah River Plant, Aiken, South Carolina

(Changes from FY 2000 Congressional Budget Request are denoted with a vertical line [|] in the left margin.)

Significant Changes

None.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost ($000)	Total Project Cost ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1998 Budget Request *(Preliminary Estimate)*	2Q 1998	1Q 2000	1Q 1999	2Q 2002	68,790	85,540
FY 1999 Budget Request [a]	2Q 1998	2Q 2000	3Q 1998	3Q 2004	98,400	122,000
FY 2000 Budget Request [b]	2Q 1998	3Q 2000	3Q 1998	4Q 2004	98,400	122,000
FY 2001 Budget Request [c] *(Current Baseline Estimate)*	2Q 1998	3Q 2000	3Q 1998	4Q 2004	98,400	122,000

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
1998	11,000	5,119	5,092
1999	27,500	27,500	19,704
2000	20,233 [d]	26,114	33,937
2001	30,767	30,767	30,767
2002	5,800	5,800	5,800
2003	2,200	2,200	2,200
2004	900	900	900

[a]Reflected changes from including scope and associated funding to process tritium containing gases from the Commercial Light Water Reactor (CLWR), which was originally included in the Tritium Extraction Facility (Line Item 98-D-125).

[b]Reflects changes in schedule due to delayed start of design on most processes in Building 233-H.

[c]Detailed technical scope, cost and schedule studies currently underway. May result in an increase to the TEC and TPC.

[d]Original appropriation was $21,800,000. This was reduced by $67,000 for the FY 2000 rescission enacted by P.L. 106-113, and by $1,500,000 for an FY 2000 general reduction.

3. Project Description, Justification and Scope

In 1994, production operations were curtailed at three of the seven weapons production facilities (Mound in Ohio, Pinellas in Florida, and Rocky Flats in Colorado). Their production responsibilities were transferred to two of the remaining four production plants (Kansas City Plant (KCP) and Savannah River Site (SRS)) and to two of the national laboratories (Los Alamos National Laboratory (LANL) and Sandia National Laboratory (SNL), New Mexico). After the closure of these production operations, studies were continued to determine the optimum size and configuration of the nuclear weapons complex. It was recognized that the remaining four production facilities provided excess capacity than that required to support the projected stockpile, and that further closure and consolidation or significant downsizing of operations was necessary. Studies were begun in late 1994 to address whether the reduced stockpile levels necessitated further plant closures and consolidation/collocation at the weapons laboratories or supported the downsizing of operations at the existing production plants. These studies were used to assess all reasonable alternatives which required little or no construction of new facilities. The result of these in-depth programmatic assessments culminated in the development and approval of the Justification of Mission Need document and the Critical Decision I authorization for the Stockpile Management Restructuring Initiative (SMRI) on April 2, 1996.

The SMRI will support the implementation of Departmental decisions related to production facility downsizing or relocation of missions consistent with the Stockpile Stewardship and Management (SSM) Programmatic Environmental Impact Statement (PEIS) and the Tritium Supply and Recycling PEIS Records of Decision (ROD). The preferred alternative for restructuring the stockpile management complex was announced by the Secretary of Energy on February 28, 1996. The Secretary of Energy approved a ROD for the Tritium Supply and Recycling PEIS on December 5, 1995.

The goal of the Stockpile Management Program, as implemented by the SMRI, is to attain the following objectives: (1) fully support the evaluation, enhanced surveillance, maintenance, and repair of the enduring stockpile; (2) provide flexibility to respond to new requirements or to achieve further reductions in the stockpile size; (3) maintain and improve (where necessary) the manufacturing technology necessary to fully support the stockpile; and (4) achieve significant reductions in operating costs for the complex.

The SMRI involves (1) the downsizing of weapons assembly/disassembly and high explosives missions at the Pantex Plant; (2) downsizing nonnuclear component manufacturing at the Kansas City Plant; (3) downsizing weapons secondary and case fabrication at the Oak Ridge Y-12 Plant; and (4) consolidation of existing tritium operations at the SRS.

No new facilities are being proposed for implementing the SMRI. Existing facilities will be utilized to the maximum extent possible. All existing facilities that have been identified for utilization under each site specific recommended alternative will be repaired, upgraded, and/or modified to meet current environment, safety, and health requirements. In addition, they will be configured to maximize effectiveness and efficiency in support of the site-specific downsizing and/or consolidation management capability requirements for the smaller stockpile.

The Tritium Facility Modernization and Consolidation work package will relocate several process systems and equipment and/or process functions from Buildings 232-H into existing buildings within the Tritium Facility. High and Moderate hazard processes will be relocated into Building 233-H.

Low Hazard processes will be relocated to the North end of Building 234-H. The Building 233-H and 234-H service support systems will be upgraded to accommodate the additional loads.

The consolidation of Tritium processing activities into Buildings 233-H, 249-H, and the newer portion of 234-H will improve the safety of operations, reduce environmental releases, improve productivity, and significantly reduce future operating costs.

The consolidation of equipment into fewer operating buildings will allow for the reduction of maintenance, operations, and support staffing. The closure of 232-H will further reduce the Defense Programs operating budget for the SRS. It is estimated that financial pay back for this project can be realized in approximately four years.

The scope of work also includes work that was transferred from the Tritium Extraction Facility, Line Item 98-D-125. These are increases in capacities and flows in the primary separation system, process stripper/tritium recovery system, glovebox stripper/tritium recovery system. Also added is an isotope separation process. These additions will allow the Consolidation project to handle additional process and waste gases from any new tritium source.

Project Milestones

FY 1998: Physical Construction Starts	3Q
FY 2000: A-E Work Completed	3Q
FY 2004: Physical Construction Complete	4Q

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Design Phase		
Preliminary and Final Design costs (Design Drawings and Specifications)	13,370	13,370
Design Management Costs (0.4% of TEC)	413	413
Project Management Costs (1.0% of TEC)	987	987
Total, Design Costs (15.0% of TEC)	14,770	14,770
Construction Phase		
Improvements to Land	100	100
Buildings [a]	5,300	5,300
Special Equipment	36,345	36,345
Standard Equipment	3,080	3,080
Removal Cost Less Salvage	1,645	1,645
Inspection, Design and Project Liaison, Testing, Checkout and Acceptance	7,034	7,034
Construction Management (2.0% of TEC)	1,995	1,995
Project Management (2.4% of TEC)	2,367	2,367
Total, Construction Costs (58.8% of TEC)	57,866	57,866
Contingencies		
Design Phase (5.3% of TEC)	5,240	5,240
Construction Phase (20.9% of TEC)	20,524	20,524
Total, Contingencies (26.2% of TEC)	25,764	25,764
Total, Line Item Costs (TEC) [b]	98,400	98,400

5. Method of Performance

The Management and Operating (M&O) contractor, Westinghouse Savannah River Company, will have overall project performance responsibility. The M&O contractor will accomplish design, construction and procurement, utilizing fixed-price subcontracts awarded on the basis of competitive bidding to the extent feasible.

[a] This amount includes improvements to land, special equipment, other structures and utilities with more exact breakout to be determined.

[b] Escalation rates taken from the FY 1998 DOE escalation multiplier tables.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 1999	FY 2000	FY 2001	Outyears	Total
Project Cost						
Facility Cost						
Design	5,092	13,989	929	0	0	20,010
Construction	0	5,715	33,008	30,767	8,900	78,390
Total, Line item TEC	5,092	19,704	33,937	30,767	8,900	98,400
Total, Facility Costs (Federal and Non-Federal)	5,092	19,704	33,937	30,767	8,900	98,400
Other Project Costs						
R&D necessary to complete construction	800	0	0	0	0	800
Conceptual design cost	300	0	0	0	0	300
Decontamination and Decommissioning (D&D)	200	0	0	0	0	200
NEPA documentation costs	30	0	0	0	0	30
Other ES&H costs	10	80	130	190	400	810
Other project-related costs	3,560	2,068	2,570	4,162	9,100	21,460
Total, Other Project Costs	4,900	2,148	2,700	4,352	9,500	23,600
Total, Project Cost (TPC)	9,992	21,852	36,637	35,119	18,400	122,000

7. Related Annual Funding Requirements

(FY 2004 dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs [a]	330	330
Annual facility maintenance/repair costs	440	440
Programmatic operating expenses directly related to the facility	1,100	1,100
Capital equipment not related to construction but related to the programmatic effort in the facility	30	30
GPP or other construction related to the programmatic effort in the facility	10	10
Utility costs	170	170
Total related annual funding (operating from FY 2004 through FY 2033)	2,080	2,080

[a]Estimated life of project–30 years.